



Autonomous Vehicles and People with Disabilities

Many Americans take access to transportation for granted. Some own vehicles, while others regularly use public transportation or take a ride share service such as Uber or Lyft. For people with disabilities, particularly those who are outside of the work force, it may be difficult for them to own an accessible vehicle, public transportation may not be fully accessible or convenient, and ride shares and taxis too often cannot accommodate passengers with disabilities who use wheelchairs.

The auto manufacturers or original equipment manufacturers (OEM) do not take accessibility needs into consideration when manufacturing automobiles for purchase by the general public. As a result, people with disabilities who use wheelchairs must rely on vehicles that have had aftermarket accessible alterations to meet their needs. Specifically, this might be a car that has hand controls adapted so the driver who cannot use the brake or accelerator can still drive. Another example is a minivan that has had a ramp or lift installed that would allow a person in a wheelchair to enter and be a passenger or driver.

Why Is This Important to PVA Members?

Some say that autonomous vehicles (AVs), also known as self-driving cars, are a potential solution to transportation needs and independence for people with disabilities. How is that possible? What is an AV? Do they really exist?

An AV is a car or truck that can drive from point A to B independently without the traditional driver behind the wheel engaged in the operation of the vehicle. The technology was developed in partnerships between the auto manufacturers and the high-tech companies like Google and Nuro.

Nuro is a driverless delivery company that recently received a first-of-its-kind exemption from federal regulators to operate on public roads in the state of California with no human driver behind the wheel. Their R2 delivery vehicle provides valuable convenience to consumers. It allows people to remain safely at home while their groceries, medicines, and packages are brought to them.

Currently, there are no individually manufactured AVs that are ready for the general public and even if there were, access is not a priority for the manufacturers. OEMs are focused on creating driverless cars from existing vehicle platforms which are not universally designed to carry people with disabilities.

And yet, a recent survey by Partners for Automated Vehicle Education (PAVE) found that 76 percent of people with disabilities polled found that “AVs would help mobility challenged people go places they cannot get to today.” The PAVE poll further indicated that Americans need

additional knowledge about the technology and that further exposure to the technology would increase their trust in AVs.

What Can Be Done to Ensure AV Accessibility?

Ideally, an accessible AV would have low floor entry by way of a deployed ramp. People would be able to independently wheel into the vehicle and secure themselves and their wheelchair via locking stations and seat belts. Voice activated controls would allow passengers to close the lift /ramp and door, direct the vehicle to the destination, and adjust any other controls internally for the convenience and safety of occupants. The vehicle must be self-aware of the infrastructure in which it navigates in determining where to pick up and drop off a passenger with a disability so that it takes into consideration if the passenger is blind or uses a wheelchair.

The Consortium for Citizens with Disabilities (CCD), of which PVA is a member, recommends that the U.S. Access Board develop AV standards that ensure adequate safety and crashworthiness for all people with disabilities, including wheelchair users who remain in their wheelchairs in the vehicle. A redundant accessible communications system to report emergencies, and ensure timely response and safe extraction from the vehicle should also be required. Additionally, CCD urges Congress to increase funding for the Federal Transit Administration to ensure its technical assistance and training are available to promote the availability and accessibility of AV transportation options for people with disabilities.

For more information about AVs and their evolution, go to www.autosinnovate.org - the Alliance for Automotive Innovation. To learn more about accessibility issues in AV technology go to www.nadtc.org - the National Aging and Disability Transportation Center.